Public Health Management of Cases and Clusters of Severe Respiratory Illness (SRI) in the SARS Post-Outbreak Period

Interim Guidelines

Version 1: November 6, 2003

This document has been developed in response to a need for recommendations regarding the public health management of cases of severe respiratory illness (SRI) identified through enhanced surveillance in the SARS post-outbreak period.

The material provided in this document has been produced through consultations among federal, provincial, territorial and local public health officials across Canada and is aimed at producing scientifically sound guidelines on SRI for health professionals. Health Canada would like to acknowledge the significant and ongoing contributions of all participating stakeholders.

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1.0 Introduction

The purpose of this document is to provide baseline national recommendations for the public health management of specific scenarios or "alerts" identified through enhanced surveillance for severe respiratory illness (SRI) in the SARS post-outbreak period (See "Surveillance for Severe or Emerging Respiratory Infection in the SARS Post-Outbreak Period**"** **http://www.sars.gc.ca/**). If SARS re-emerges then it is expected that the guidelines referring to the SARS "outbreak period" will become the appropriate reference documents.

This document is intended to be used by the provinces and territories for public health purposes as part of a staged response. Recommendations are provided to guide the public health response to an unidentified respiratory illness and facilitate consistency of approach across jurisdictions. Operational issues have not been addressed by this national document since implementation of the recommended activities will take place mainly at the provincial/territorial and local levels and therefore may vary across Canada.

The goal of enhanced surveillance in the SARS post-outbreak period, as stated in the national surveillance document, is:

To prevent large-scale epidemics and outbreaks of respiratory infections associated with increased morbidity and mortality, through the establishment of ongoing surveillance for severe or emerging respiratory infections and rapid implementation of control measures.

The achievement of this goal will be dependent on increased vigilance on the "front lines", the rapid implementation of effective infection control precautions and timely communication between all stakeholders.

1.1 Principles and Assumptions

The current recommendations are based on the following principles/assumptions:

- Recommendations regarding infection control issues and the clinical management of SRI cases will be addressed in separate documents
- Cases should be managed according to current infection control recommendations while in hospital
- Discharge decisions should be based on the case's clinical status
- The need for post-discharge isolation would be based on the information available at the time discharge is being considered (e.g. evidence of period of communicability, and status of the case)
- Clusters of SRI within a health care unit will be notified in a timely manner to local public health authorities
- Cases of SRI epidemiologically linked to a zone of emergence/re-emergence will be notified in a timely manner to local public health authorities
- Infection Control and Occupational health departments within facilities with SRI cases of concern will work jointly with the local public health authorities to implement recommendations for monitoring of cases and contacts

- Infection Control and Occupational health departments will be the lead for in-facility monitoring of patients and staff who are cases or contacts of cases
- Local public health authorities will be the lead for monitoring of staff and other contacts of cases in the community
- If active, laboratory-confirmed cases of SARS are detected anywhere in the world then SRI cases linked to the area with these active SARS cases will be managed as per the Public Health Management of SARS Cases and Contacts Interim Guidelines
- If laboratory and clinical findings are highly indicative of a known pathogen then the individual/cluster should be managed as per recommendations for management of the specific disease. (i.e., if an alternate diagnosis is reached then it is expected that the measures recommended in this document would be replaced by measures specific for the known pathogen)
- If laboratory testing does not result in a conclusive diagnosis, control measures can be "stepped down" once there is clinical improvement in the affected individual(s) and no new cases have been detected through a complete investigation of close contacts, within an agreed upon time frame (e.g. 2 incubation periods if this can be determined)
- Recommendations are being provided to facilitate consistency across jurisdictions with respect to basic public health response actions for these types of alerts in the SARS post-outbreak period. Each jurisdiction should consider whether additional action (e.g. more frequent communication with contacts of SRI cases, or more aggressive case finding activity) is required based on the individual situation.

1.2 Risk Assessment

It is considered by many to be unlikely that a novel virus such as SARS-CoV or a novel influenza strain would first emerge (or in the case of SARS, re-emerge) in Canada. However, it is also recognized that the interval between emergence/re-emergence of an infectious agent elsewhere in the world and the appearance of cases in Canada may be quite short.

When assessing hospitalized cases of severe respiratory illness, it is important to inquire about travel history or recent close contact with ill travellers. A positive history of travel, or contact with a seriously ill traveller, from a potential zone or emergence/re-emergence should be noted and communicated to all health care providers providing care to the patient to ensure that appropriate infection control measures and clinical and laboratory investigations are initiated. Based on the current national surveillance recommendations for SRI, reporting of the SRI cases with a significant history of travel or other possible SARS-related risk factors (i.e., lab worker who has recently handled the SARS-CoV), should occur if no other diagnosis can be made within 72 hours of hospitalization. This report will trigger a more comprehensive risk assessment or investigation, including case finding among close contacts of the SRI case. If the case had not travelled but had been in close contact with a seriously ill traveller from the area of concern, then investigation of the ill traveller would also contribute to the risk assessment.

When unexplained clusters of SRI occur in an acute care unit, it will also be important to have a protocol in place to rapidly assess the risk that the illness is being caused by SARS-CoV or another novel agent. With this type of alert it would be assumed that the infectious agent had already caused one or more undetected cases and therefore the investigation

would also include retrospective case finding activities, in order to fully assess the risk that SARS has re-emerged or serious illness due to a novel agent has been identified.

1.3 Clarification of Terminology

"Close contact" - means having cared for, lived with or had face-to-face (within 1 metre) contact with, or having had direct contact with respiratory secretions and/or body fluids of a person with the respiratory illness.

"Potential Zones of emergence/re-emergence" - Currently, based on expert opinion, China (including mainland China, Taiwan Province and Hong Kong Special Administrative Region), is considered to be the most likely zone for potential re-emergence of SARS-CoV. It is also considered highly likely that novel influenza viruses may arise from this zone. Upon detection of any emerging or re-emerging pathogens internationally the "potential zones of emergence/re-emergence" will be reviewed and updated as necessary.

"Health Care Unit" - The definition of the health care unit in which a cluster occurs will depend on the local situation. Unit size may range from an entire health care facility if small, to a single department or ward of a large tertiary hospital.

"Isolation" - refers to separation, for the period of communicability, of **ill** (i.e. symptomatic persons) from others in such places and under such conditions as to prevent or limit the direct or indirect transmission of the infectious agent

"Incubation period" – refers to the time interval between infection (i.e. introduction of the infectious agent into the susceptible host) and the onset of first symptom of illness known to be caused by the infectious agent

2.0 Public Health Management Protocol for a sporadic case of SRI with a potential epidemiologic link

For a definition of this type of alert please refer to the latest version of the document entitled "Surveillance for Severe or Emerging Respiratory Infections in the SARS Post-Outbreak Period". The "general criteria" presented below are being provided as a general reminder to the reader and should not take the place of the specific definition in the surveillance document.

General Criteria:

- A person (alive or dead) with history of SRI necessitating admission to hospital, who has/had a history of recent travel to a potential zone of emergence/re-emergence OR who is/was a laboratory worker who has/had recently handled live SARS-CoV
- Results of preliminary investigations (or autopsy findings), within first 72 hours of hospitalization, cannot ascertain an diagnosis

Reporting protocol:

- Once report is received from the hospital, the local public health authority should report the SRI case to P/T public health authority who will then notify the Centre for Infectious Disease Prevention and Control (CIDPC), Health Canada
- CIDPC will inquire as to whether there are any possible active SARS cases in the location where the person with SRI had travelled and notify the reporting P/T of the results of the inquiry

Public Health Measures:

- In cooperation with the Infection Control and Occupational health departments in the affected facility, underscore the importance of routine infection control practices for respiratory illnesses and provide instructions for staff who have cared for the case, without taking appropriate precautions (i.e. had unprotected close contact with the case), to self-monitor for fever and symptoms of respiratory illness for 10 days
- Other close contacts within the affected facility (e.g. patients who shared a room with a case) who are asymptomatic should be managed according to current infection control guidelines while in the facility and as a community contact (see below) if discharged within 10 days, after they last had close contact with a case
- If the SRI case was a contact of an ill traveller, then public health should consider (depending on the severity of illness in the traveller) undertaking an investigation of the traveller including assessing any clinical and laboratory data available, and any close contacts.
- Follow-up of other close contacts in the community (e.g. household members who were in close contact with the SRI case after onset of symptoms) should occur if the contacts can be reached within 10 days of their last contact with an infectious case[1]

[1] This recommendation takes into account the need to prioritize limited public health resources. It is acknowledged that some cases may be symptomatic and missed if no attempt is made to reach potentially ill contacts identified beyond the 10-day time frame. Therefore this should be considered a reasonable approach to contact management and should not preclude any jurisdiction from undertaking a more complete contact investigation.

    - If the close contact is **symptomatic** (i.e., has fever, cough or difficulty breathing):
        - Hospital/Home isolation* until symptoms have resolved/returned to baseline
        - Public health should ensure that these individuals are contacted at least once to provide education and stress importance of minimizing exposure to others
        - Encourage the individual to phone their personal physician so that decisions regarding the need for a clinical assessment can be individualized
        - Consider requesting laboratory investigation to assist with defining the aetiology of the illness in the contact and perhaps, indirectly, the illness of the hospitalized SRI case
        - Ask that any results of clinical or laboratory investigations on this individual be shared with public health, especially if a causative agent is identified
        - Symptomatic health care providers should be asked to check in with their respective occupational health departments prior to returning to work
    - If the close contact is **asymptomatic** (i.e. is afebrile and has no respiratory symptoms that are different from their baseline status):
        - Self-monitor for fever and new respiratory symptoms for 10 days following last contact with the case
        - Public health should ensure that these individuals are contacted at least once to provide education and instructions regarding self-monitoring, and who to contact if they become ill
- More remote contacts of the case should be followed up at the discretion of the local public health authority, (for example if the investigation reveals a high proportion of illness within the group who have had close contact with the case)
    - If the number of close contacts is low and all are symptomatic, the decision to proceed with investigation of more remote contacts should be based on the information available at the time, for example, the severity of illness in the close contacts
- If the case was severely ill with the respiratory illness during air travel (i.e. return to Canada), then passenger contact information (e.g., airplane manifest) should be requested from the Centre for Emergency Preparedness and Response (CEPR), Health Canada
    - Follow-up of passengers would only be considered if the case ends up meeting the SARS case definition within 10 days of the flight or is found to have another illness with significant public health implications

***Note :** The symptomatic contact should be isolated in their home unless hospitalization is clinically indicated. These individuals would be instructed to stay home from work/school/ other activities, wash their hands frequently and avoid direct face to face contact with others for the duration of their illness. The extent of the isolation requirements should be based on the severity of illness in the case, the composition of the household (e.g. presence of immunocompromised individuals) and any available evidence regarding communicability and ease of transmission.*

3.0 Public Health Management Protocol for a Cluster of SRI within a Health Care Unit in an Acute Care Facility

For a definition of this type of alert please refer to the latest version of the document entitled "Surveillance for Severe or Emerging Respiratory Infections in the SARS Post-Outbreak Period": http://www.sars.gc.ca/. The "general criteria" presented below are being provided as a general reminder to the reader and should not take the place of the specific definition in the surveillance document.

General Alert Criteria:

- Cluster of hospitalized cases with hospital acquired SRI
- Results of preliminary investigations, within first 72 hours of hospitalization, cannot ascertain a diagnosis
- No potential epidemiologic link required

Reporting protocol:

- Once report is received from the hospital, the local public health authority should report the cluster to P/T public health authority who will then notify CIDPC, Health Canada

Public Health Measures:

- Regional/Local public health authorities should consider restricting patient transfers between the affected health care unit and other units until the cluster has been contained (i.e. no evidence of spread from the initial cluster of cases)
- Consider recommending the limitation of the work sites of potentially exposed health care workers who also work in other (unaffected) health care units until the cluster is contained
- In cooperation with the Infection Control and Occupational health departments in the affected facility, underscore the importance of routine infection control practices for respiratory illnesses and provide instructions for staff who have cared for any of the SRI cases without taking appropriate precautions (i.e. had unprotected close contact), to self-monitor for fever and symptoms of respiratory illness for 10 days or one incubation period since last contact (if this can be determined)
- In cooperation with the Infection Control and Occupational health departments initiate an investigation in to the potential source of infection including any community links.
- Other close contacts within the affected facility (e.g. patients who shared a room with a case) who are asymptomatic should be managed according to current infection control guidelines while in the facility and as a community contact (see below) if discharged within 10 days/one incubation period, since they last had close contact with a case
- Follow-up of other close contacts in the community (e.g. household members who were in close contact with the SRI case after onset of symptoms) should occur if the contacts can be reached within 10 days of their last contact with an infectious case[1]
    - If the close contact is **symptomatic** (i.e., has fever, cough or difficulty breathing):

        - Hospital/Home isolation* until symptoms have resolved/returned to baseline
        - Public health should ensure that these individuals are contacted at least once to provide education and stress importance of minimizing exposure to others
        - Encourage the individual to phone their personal physician so that decisions regarding the need for a clinical assessment can be individualized
        - Consider requesting laboratory investigation to assist with defining the aetiology of the illness in the contact and perhaps, indirectly, the illness responsible for the cluster
        - Ask that any results of clinical or laboratory investigations on this individual be shared with public health, especially if a causative agent is identified
        - Symptomatic health care providers should be asked to check in with their respective occupational health departments prior to returning to work
    - If the close contact is **asymptomatic** (i.e. is afebrile and has no respiratory symptoms that are different from their baseline status):
        - Self-monitor for fever and new respiratory symptoms for 10 days/one incubation period following last contact with the case
        - Public health should ensure that these individuals are contacted at least once to provide education and instructions regarding self-monitoring, and who to contact if they become ill
- More remote contacts of the case should only be followed up at the discretion of the local public health authority, (for example if the investigation reveals a high proportion of illness within the group who have had close contact with the case)

***Note :** The symptomatic contact should be isolated in their home unless hospitalization is clinically indicated. These individuals would be instructed to stay home from work/school/ other activities, wash their hands frequently and avoid direct face to face contact with others for the duration of their illness. The extent of the isolation requirements should be based on the epidemiology of the outbreak in the hospital setting.*